Draft
Environmental Impact Report/ Environmental Assessment

State Route 138 Widening Project From Avenue T to State Route 18 Junction Through the Communities of Littlerock, Pearblossom, Llano and the City of Palmdale

SCH Number: 1998091007

Caltrans

District 7 • 120 South Spring Street • Los Angeles, California

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4.0 Environmental Evaluation

Projects located in California that are undertaken by federal agencies, utilize federal funds, or require discretionary approval from federal agencies, are subject to both the National Environmental Policy Act (NEPA) (42 USC 4321, et seq.) and the California Environmental Quality Act (CEQA) (PRC 2100-21178.1, et seq.). The basic procedural and policy structure of NEPA and CEQA are similar, and the content requirements for documents implementing NEPA and CEQA are also similar. CEQA does require a "finding of significant effects" in certain cases, which are not required by NEPA or the Federal Highway Administration (FHWA) guidance for applying NEPA (FHWA Technical Advisory T6640.8A).

Determining significance on project environmental impacts requires careful evaluation based on technical data. To assist in making this determination, an environmental checklist was completed. See Section 4.1.

Technical studies were conducted to provide background data and to assist in evaluating the environmental consequences of the proposed project. The following studies are incorporated by reference into the document.

- Air Quality Conformity (March 2000)
- Physical Environment Report-Noise, Air Quality and Energy (February 1998)
- Historical Property Survey Report (February 2000)
- Geotechnical Report (July 1999)
- Hydraulic/Floodplain Analysis (Location Hydraulic Study August 1998)
- Visual Impact Analysis (April 2000)
- Traffic Forecast Analysis (May 2000)
- Natural Sciences Study Report (January 2000)
- Project Scope Summary Report, Big Rock Wash Bridge (August 1997)
- City of Palmdale Specific Plan (1993)
- Draft Relocation Impact Report (January 2000)
- Antelope Valley General Plan (December 1986)
- Initial Site Assessment (Professional Service Industries January 1998)
- Utility Impact Study (November 1999)
- Project Study Report (October 1991)
- Traffic Study (June 2000)
- Site Investigation Report-Lead Testing (January 1996)
- Archaeological and Historical Investigation Report (February 2000)

The technical reports are available for review at the following location.

Caltrans, District 7
Office of Environmental Planning
120 South Spring Street
Los Angeles, CA 90012

4.1 CEQA Environmental Checklist

This checklist was used to identify physical, biological, social and economic factors, which might be impacted by the proposed project. In many cases, the background studies performed in connection with this project clearly indicate the project will not affect a particular item. A "NO" answer in the first column documents this determination. Where there is a need for clarifying discussion, an asterisk is shown next to the answer. The discussion is in the section following the checklist.

PHYSICAL. Will the proposal (either directly or indirectly):		YES or NO	If YES, is it significant? YES or NO
1.	Appreciably change the topography or ground surface relief features?	YES	NO*
2.	Destroy, cover, or modify any unique geologic or physical features?	YES	NO*
3.	Result in the loss of availability of a known mineral resource or locally important mineral resource recovery site, that would be of value to the region and the residents of the state?	NO	
4.	Result in unstable earth surfaces or increase the exposure of people or property to geologic or seismic hazards?	NO*	
5.	Result in or be affected by soil erosion or siltation (whether by water or wind)?	YES	NO*
6.	Result in the increased use of fuel or energy in large amounts or in a wasteful manner?	NO	
7.	Result in an increase in the rate of use of any natural resource?	NO	
8.	Result in the substantial depletion of any nonrenewable resource?	NO	
9.	Violate any published Federal, State, or local standards pertaining to hazardous waste, solid waste or litter control?	NO*	
10.	Modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?	YES	NO*
11.	Encroach upon a floodplain or result in or be affected by floodwaters or tidal waves?	YES	NO*
12.	Adversely affect the quantity or quality of surface water, groundwater, or public water supply?	YES	NO*
13.	Result in the use of water in large amounts or in a wasteful manner?	NO	
14.	Affect wetlands or riparian vegetation?	YES	NO*
15.	Violate or be inconsistent with Federal, State or local water quality standards?	NO*	
16.	Result in changes in air movement, moisture, or temperature, or any climatic conditions?	NO	
17.	Result in an increase in air pollutant emissions, adverse effects on or deterioration of ambient air quality?	NO	
18.	Results in the creation of objectionable odors?	NO	
19.	Violate or be inconsistent with Federal, State, or local air standards or control plans?	NO*	
20.	Result in an increase in noise levels or vibration for adjoining areas?	YES	NO*
21.	Result in any Federal, State, or local noise criteria being equal or exceeded?	YES	NO*
22.	Produce new light, glare, or shadows?	NO	

BIOLOGICAL. Will the proposal (either directly or indirectly):	YES or NO	If YES, is it significant? YES or NO
23. Change in the diversity of species or number of any species of (including trees, shrubs, grass, microflora, and aquatic plants)?	YES	NO*
24. Reduction of the numbers of or encroachment upon the critical habitat or any unique, threatened or endangered species of plants?	YES	NO*
25. Introduction of new species of plants into an area, or result in a barrier to the normal replenishment of existing species?	NO	
26. Reduction in acreage of any agricultural crop or commercial timber stands, or affects prime, unique, or other farmland of State or local importance?	YES	NO*
27. Removal or deterioration of existing fish or wildlife habitat?	YES	NO*
28. Change in the diversity of species or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna)?	NO	
29. Reduction of the numbers of or encroachment upon the critical habitat of any unique threatened or endangered species of animals?	YES	NO*
30. Conflict with any applicable habitat conservation plan, natural community conservation plan or other approved local, regional or state habitat plan?	YES	NO
31. Introduction of new species of animals into an area, or result in a barrier to the migration of movement of animals?	YES	NO*
SOCIAL AND ECONOMIC. Will the proposal (directly or indirectly):		
32. Cause disruption of orderly planned development?	NO	
33. Be inconsistent with any elements of adopted community plans, policies or goals?	NO	
34. Be inconsistent with a Coastal Zone Management Plan?	NO	
35. Affect the location, distribution, density, or growth rate of the human population of an area?	NO*	
36. Affect life-styles, or neighborhood character or stability?	YES	NO*
37. Affect minority, elderly, handicapped, transit-dependent, or other specific interest groups?	YES	NO*
38. Divide or disrupt an established community?	NO	
39. Affect existing housing require the acquisition of residential improvements or the displacement of people or create a demand for additional housing?	YES	NO*
40. Affect employment, industry or commerce, or require the displacement of businesses or farms?	YES	NO*
41. Affect property values or the local tax base?	YES	NO*
42. Affect any community facilities (including medical, educational, scientific, recreational, or religious institutions, ceremonial sites or sacred shrines)?	YES	NO*
43. Affect public utilities, or police, fire, emergency or other public services?	YES*	NO*
44. Have substantial impact on existing transportation systems or alter present patterns of circulation or movement of people and/or goods?	YES	NO*
45. Generate additional traffic?	YES	NO*
46. Affect or be affected by existing parking facilities or result in demand of new parking?	YES	NO*
47. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	NO	

SOCIAL AND ECONOMIC continued. Will the proposal (either directly or indirectly):	YES or NO	If YES, is it significant? YES or NO
48. Involve a substantial risk of an explosion or the release of hazardous substances in the event of an accident or otherwise adversely affect overall public safety?	NO	
49. Result in alterations to waterborne, rail or air traffic?	NO	
50. Support large commercial or residential development?	YES	NO
51. Affect a significant archaeological or historic site, structure object, or building?	YES	YES*
52. Affect wild or scenic rivers or natural landmarks?	NO	
53. Affect any scenic resources or result in the obstruction of any scenic vista or view open to the public, or creation of an aesthetically offensive site open to public view?	NO	
54. Result in substantial impacts associated with construction activities (e.g., noise, dust, temporary drainage, traffic detours and temporary access, etc.)?	YES*	NO*
55. Result in the use of any publicly owned land from a park, recreation area, or wildlife and waterfowl refuge?	NO	
MANDATORY FINDINGS OF SIGNIFICANCE		
56. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number of, restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	YES	NO*
57. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one, which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)	NO	
58. Does the project have environmental effects, which are individually limited, but cumulatively considerable? Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects probable future projects. It includes the effects of other projects, which interact with this project and, together, are considerable.	YES	YES
59. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	NO	

* An asterisk indicates that impacts can be mitigated to a level of non-significance.

4.2 Discussion of Environmental Consequences

This section is devoted to explanations of impacts and proposed mitigation measures. Any mitigation measures that are proposed are clearly identified.

4.3 Geology, Topography, Seismic (Environmental Checklist Questions 1,2,4)

In the proposed alternatives there will be some changes in the profile of the existing highway. The preferred alternative will require the profile of the highway to be elevated 5 ft (1.5 m) to accommodate the drainage culverts required to eliminate the retention of water on the roadway. In the Big Rock Wash the topography will change due to an increase in the profile of the bridge in order to accommodate a wildlife corridor and to elevate the roadway from possible flooding during the storm event.

The Llano del Rio site would have a change in profile as much as 6 ft (1.8 m) in order to accommodate new culverts in order to diverge water away from the site.

The existing highway and the project site are situated in an active seismic region that is located less than 3 miles northerly of the San Andreas Fault Zone.

Measures to Minimize Harm

1. *Work would be conducted during the dry season, unless an emergency situation arises during the wet season.*
2. *All bridges and other structures would be designed to resist the maximum credible earthquake without collapse, structural damage or traffic obstruction.*

4.3.1 Soil Erosion (5)

Construction of new bridges in the Little Rock and Big Rock Wash may result in soil erosion. The potential for high winds along the corridor contributes to erosion. The AQMD Rule 403 governs soil erosion due to wind across bare or excavated soil during the construction phase of the project.

Measures to Minimize Harm

1. *An effective dust control plan shall be incorporated as required by the AQMD.*
2. *Erosion control procedures, such as application of stabilizing materials to exposed soil, shall be used as appropriate during construction. Water may be used as a stabilizer: however hydroseeding or planting of vegetation, polymers or other chemical stabilizers, or straw matting may be used alternatively.*

4.4 Hazardous Waste (9)

An Initial Site Assessment was conducted for the State Route 138 widening project. Asbestos and a lead-based paint surveys were not performed in the Initial Site Assessment. However lead-based paint and asbestos containing materials and components may be present in existing buildings due to the age, which may be impacted by the proposed right-of-way acquisition. Therefore, sampling for lead-based paint and asbestos is recommended. Prior to right-of-way acquisition and/or any demolition activities, a comprehensive asbestos survey in accordance with the South Coast Air Quality Management District (SCAQMD) Rule 1403 will be

conducted. There are above and underground storage tanks just outside the proposed right-of-way.

Between 126 St. East (PM 59.8, KP 96.23) and State Route 18 (PM 69.5, KP 111.84) a Site Investigation Report identified two areas where concentrations of lead located 0.5 (0.15 m) to 1.5 feet (0.46 m) below the surface level are at a hazardous level. It is estimated that approximately 222 cubic yards of soil at the site is impacted with hazardous concentrations of lead and will require special handling. Other areas along the State Route 138 widening project are below the Caltrans acceptable variance for lead and below the threshold limit for the amount of lead present in the soil. Therefore the sites are no longer considered to have a potential for hazardous waste.

Caltrans applies an Aerial Lead variance that has been approved by the Department of Toxic Substances Control to project sites when there is a potential for contaminated soil. The variance allows Caltrans to reuse soil-containing lead, as long as it is handled properly, replaced along the same section of highway (within the freeway corridor) and covered with clean soil or roadway. The goals of the variance are to 1) make sure that the lead will stay where it placed and 2) that neither animals nor humans can come into contact with it.

The following properties would require further investigations to ensure there is no contamination into the right-of-way.

- Concrete and metal piping remains located on the southwest corner of Four Points
- Valco Transmission 78226 Pearblossom Highway- UST
- C-Bar-B plaza (Littlerock Liquor and Gas), 8063 Pearblossom Highway-UST
- Black Gold Oils Company Station #147, 8157 Pearblossom Highway- LUST/Cortese List, UST
- Pacific Bell, 9550 Pearblossom Highway-RCRA large generator-LUST,AST
- Jerry's Minute Mart, 12515 Pearblossom Highway-LUST/Cortese,UST
- Kwik Tune Lube and Oil , 13100 Pearblossom Highway- UST
- Buchanan Union 76 (Jack's Gas and Mini Mart), 17326 Pearblossom Highway-UST
- Unidentified residential property at Largo Vista Road- Drums, AST

Measures to Minimize Harm

1. *A Preliminary Site Investigation (PSI) would be conducted prior to acquisition.*
2. *A thorough on site visual inspection of property with identification of drums, containers, vents, soil staining or any other possible point source contaminants.*
3. *Communication with property owners and personnel.*
4. *In the sites of lead contamination it is recommended to excavate intervals of 0.5 to 1.5 feet (0.15 to 0.46 m) of soil using the following process: The interval from 0 to 0.5 feet (0 to 0.46 m) below ground surface (bgs) should be excavated and stockpiled as Stockpile A. The interval of lead impacted soil, 0.5 to 1.5 feet (0.15 to 0.46 m) bgs, should be excavated and stockpiled as Stockpile B. Soil existing at depths from 1.5 to 3.0 feet (0.46 to 0.91 m) bgs should be excavated and stockpiled with Stockpile A. Stockpile B should then be re-used and placed from 2.0 to 3.0 feet (0.6 to 0.91 m) bgs. Stockpile A should then be placed over the lead impacted cover.*
5. *Notify contractors that there is a detectable concentration of lead present within the on-site soils.*

6. *Necessary health and safety precautions should be taken to avoid/minimize potential exposure to lead in the on-site soil.*
7. *All properties to be acquired should be clear of Hazardous Waste/Materials prior to acquisition by Caltrans.*

4.5 Floodplain (11)

The project area encroaches on floodplains transversely at various locations throughout its length. The roadway encroaches on all existing conditions and would be continued in all design alternatives of the project. In order to alleviate this problem it is proposed to raise and level the roadway to the top of the existing high points, and place culverts to allow water to pass under the 4-lane highway.

Three areas of concern that were identified by the Location Hydraulic Study are as follows.

- Little Rock Creek Bridge #53-303 PM 53.57
- Big Rock Wash Bridge #53-313 PM 63.00
- Big Rock Wash Bridge #56-314 PM 63.04

Little Rock Creek Bridge #53-303 is in a floodplain and is exposed to flooding. This bridge is in an alluvial fan formation and the extent of flooding will vary, because of the continual degradation, aggradation and meandering of the water in the channel and the strength of each individual storm. The risk associated with the implementation of any of the project alternatives is low.

Big Rock Wash Bridges # 53-313 and #53-314 are located in a floodplain and are both subjected to flooding. This location is in an alluvial fan formation and the extent and depth of flooding is dependent on the severity of the storm. The risk associated with the implementation of the proposed project is low.

As discussed in the Location Hydraulic Study the proposed project would not constitute a significant floodplain encroachment, as required by 23 CFR 650, Subpart A (Executive Order 11988 and 23 CFR 650 Subpart A). The proposed project would not support incompatible floodplain development. It was also determined that the project would not adversely affect the base floodplain and would not impact the natural and beneficial floodplain values. The City of Palmdale and the communities of Littlerock, Pearblossom, and Llano are all active participants in the National Flood Insurance Program.

4.5.1 Water Quality (10, 12,14,15)

Although present water quality is satisfactory, there is a slow trend toward reduced groundwater quality, due to increased urban run-off, septic tank failures in the San Gabriel watershed, declining water tables, and an extensive perched water condition in the Lancaster sub-unit of the Antelope Valley Basin (this sub-unit presently supplies the majority of the pumped water supply in the Basin). The proposed project widening of Big Rock Wash Bridge would occur in Big Rock Wash and since the creek is seasonal there will not be any effects to the existing water quality. Also all work that will be required would be done during low flow season.

Measures to Minimize Harm

1. *Earthen or paved interceptors and diversions will be installed at the top of cut or fill slopes where there is a potential for surface runoff on constructed slopes.*
2. *Excavated materials would not be deposited or stored alongside watercourses where material can be washed away by high water or storm runoff.*
3. *Drainage would be designed to perpetuate existing flows to the maximum extent feasible.*
4. *Water quality control measures would be undertaken during project construction in compliance with Caltrans Standard Specifications Section 7-1.01G – Water Pollution Control Program (WPCP) and/or Storm Water Pollution Prevention Plan (SWPPP) requirements.*
5. *Caltrans would obtain water quality certification, under Section 401 of the Clean Water Act, from the California Regional Water Quality Control Board.*
6. *Caltrans would obtain 404 permit from the Army Corps of Engineers.*
7. *The drainage area would be evaluated for the need to acquire a Section 1601 Streambed Alteration Agreement from the California Department of Fish and Game.*

4.6 Air Quality (19)

The Quantitative measurement of the Air Quality was done with both microscale and mesoscale analysis. The major sources of air pollutants on State Route 138 are produced by motor vehicles. The emissions that were analyzed were found to contain carbon monoxide (CO), hydrocarbons (HC), oxides of nitrogen (NO_X), oxides of sulfur (SO_X) and particulates that are all primary pollutant emissions form vehicular traffic.

The Clean Air Act Amendments (CAAA's) of 1990 require that transportation plans, programs and projects which are funded by or approved under Title 23 U.S.C. or Federal Transit Act (FTA) conform with state or federal air quality plans. In order to be found to conform, a project must come from approved transportation plans and programs such as the State Implementation Plan (SIP), the Regional Transportation Plan (RTP) and the Regional Transportation Improvement program (RTIP). This project is identified in the federally approved (July 31,1998) RTIP.

This project is identified in the Department of Transportation (District 7) 1991 Route/Transportation Concept Report (RCR/TCR). The project is also listed in the June, 1999 Los Angeles County Metropolitan Transportation Authority (LACMTA) Transportation Improvement Program (TIP) Call for Project Listing. The project is consistent with the 1998 Regional Transportation Plan (RTP), adopted on April 16,1998 and prepared by the Southern California Association of Governments (SCAG).

Regional Level

The project is located in an area that is classified attainment for Carbon Monoxide (CO); therefore it is not subject to localized CO impact review. The Quantitative Analysis for this project is provided for the purpose of relating project pollutant concentrations to State and Federal Ambient Air Quality standards shown in the Table 25. Worst case concentrations of roadside CO were computed using the screening procedure outlined in the Caltrans Air Quality Technical Analysis Notes for the build and no build alternatives.

Concentrations of CO are chosen as the indicator of impact because of the relative inertness of the gas (on tome scales appropriate to urban regions). This characteristic makes it possible to reliably predict dispersion and transport to receptors adjacent to the highway. The rest of the primary emissions are considered too unstable for reliable prediction.

Table 25 shows a slight reduction at the micro-scale level will take place due to the easement of traffic congestion and idle time with the build alternative.

Table 25 CO Concentration Results compared to Build and No Build Alternative

Time	Receptor	Ambient	No Build		Build	
			Roadway Contribution	Total	Roadway Contribution	Total
1 Hour	Worst case location	1.8 ppm	4.0 ppm	5.8 ppm	3.4 ppm	5.2 ppm
8 Hour	Worst case location	1.3 ppm	2.8 ppm	4.1 ppm	2.4 ppm	3.7 ppm

Source: Caltrans Physical Environment Report 1998

This project is located in Federal Particulate Matter (PM_{10}) unclassified/attainment area. PM_{10} hot spot analysis is not required for conformity purposes. Projects in federal attainment areas may need to perform hot spot analysis for CEQA or NEPA purposes independent of conformity analysis requirements. Based on the studies performed by Caltrans and UC Davis this type of project is unlikely to cause or experience a localized PM_{10} problem. The PM_{10} Air Quality Summaries for years 1997-1999 published by the Air Resources Board for Lancaster-W Pondera Street Monitoring Station showed no PM_{10} monitored violations of the state annual geometric mean and two violations of state daily standard per year during this period. This monitoring station is closest to the project site. The monitoring station showed state attainment for the annual geometric mean therefore this project can be considered satisfactory. This project is identified in the federally approved (July 31,1998) 1998/99-04/05 RTIP.

This project would not cause or contribute to any new localized CO or PM_{10} violations or increase the frequency or severity of any existing CO or PM_{10} nonattainment and maintenance areas.

4.7 Noise (20, 21)

FHWA regulation for mitigation of highway traffic noise in the planning and design of federally aided highways is contained in 23 CFR 772. The regulation require the following during the planing and design of a highway project: (1) identification of traffic noise impacts; (2) examination of potential mitigation measures; (3) the incorporation of reasonable and feasible noise mitigation measures into the highway project; and (4) coordination with local officials to provide helpful information on compatible land use planning and control. The regulations contain noise abatement criteria, which represent the upper limit of acceptable highway traffic noise for different types of land uses and human activities. The regulations do not require that the abatement criteria be met in every instance. Rather, they require that every reasonable and feasible effort be made to provide noise mitigation when the criteria are approached or exceeded. Compliance with the noise regulations is a prerequisite for granting of federal funds for construction of a highway. The FHWA noise regulations require that

abatement measure be considered when highway traffic noise impacts are identified and that abatement measures be implemented when they are determined to be reasonable and feasible.

The majority of the project area is surrounded by open space. Existing noise levels along State Route 138, as measured at sensitive receptors within the project limits and taken at times that would be representative of the higher traveled periods, qualify for the consideration of noise mitigation per Caltrans' Design Manual, chapter 1100 and FHWA noise abatement procedures in the Code of Federal Regulations (23 CFR part 772). Noise levels exceeded the 67 dBA recommended by the FHWA as the maximum for residential areas. However, since the businesses and residences have driveways and walkways abutting the highway, soundwalls would provide only 2-3 dBA of attenuation due to sound flaking. In addition, sight distance and sidewalk access requirements per Highway Design Manual 1102.4, Noise Barrier location, cannot be satisfied with the placement of soundwalls in any reasonable location. The construction of the soundwalls must prove reasonable and feasible. Therefore, noise mitigation is not considered feasible and not recommended for this project.

Existing and future noise levels indicate the sensitive receptors within the project limits qualify for consideration of noise mitigation. However, since the residences have driveways and walkways abutting the highway, soundwalls would provide only 2-3 dBA of attenuation, due to sound flanking.

Alpine School

An area of particular concern is the Alpine elementary school. The entrance and exit to the school is via the driveways that connect to State Route 138. A noise impact may also be found if, as a result of a proposed project, noise levels exceed 52 dBA within the interior of an existing public or private elementary, or secondary school. An existing nominal height (6 ft., 1.8 m) soundwall provides minimal noise attenuation (1-2 dBA) for the outside area adjacent to room 6. Increasing the height of the soundwall would provide an additional 1-2 dBA of attenuation. Interior classroom noise levels are currently below 43dBA. All classrooms are air-conditioned much of the year. The projected future interior classroom noise levels with the project is 47 dBA or less. The future interior noise level will be well below the dBA criteria. Therefore, soundwalls are not recommended as a method of noise attenuation for this project.

4.8 Wildlife (23,29,56)

The proposed widening of State Route 138 from Avenue T to State Route 18 would impact local wildlife. Wildlife observed included mammal (primarily rabbits and coyotes), various birds (both songbirds and raptors, various reptiles and insects. Wildlife signs observed included various size burrows; tracks and scats of reptiles, rodents, and mammals. The California Department of Fish and Games Natural Diversity Data Base (NDDB) has indicated certain species that have a potential for being present in the project vicinity. The NDDB has indicated that the project area is in the historic range and habitat for the Mohave ground squirrel.

Impacts to the biological resources in the vicinity of State Route 138 widening would occur along the entire route, with particular concentration around the Little Rock Wash and Big Rock Wash. The largest waterways include Little Rock and Big Rock Washes and the California Aqueduct. These two large washes carry the bulk of rainwater runoff along the

project area and they are critical areas for foraging and travel for local fauna. Impacts include loss or degradation of plant communities and habitats, noise and air pollution, light and glare, increased runoff and erosion, and "road kills." There are three main areas of potential impacts: 1) State Route 138 widening will create a greater barrier to faunal movement (for food, mating, etc.) and migration; 2) Some of the Joshua Trees adjacent to the roadway will have to be removed during construction and; 3) The deterioration and intrusion within the washes vis-à-vis grading and increased runoff along the route (especially Little Rock and Big Rock washes).

The desert tortoise is a listed threatened species by the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) have listed the tortoise as endangered. The Bureau of Land management has ranked areas within the historic range into categories, depending on the existing populations. The State Route 138 highway widening project lies south of a Category III area. A Category III area indicates a very low population of known tortoises within the area. Surveys conducted during May 1998 (Spring) in the project area confirmed that the desert tortoise was not present.

With the implementation of the following measures impacts to the above mentioned resources would be mitigated.

Measures to Minimize Harm

1. *A focused survey for the burrowing owl species will be conducted. If the species is observed, construction will be limited to times outside of the breeding season which begin late March and nesting pairs usually have only a single brood per breeding season. The Caltrans District 7 Office of Environmental Planning, Natural Sciences Unit, would conduct these surveys.*
2. *Pre-construction surveys will be conducted to ensure that desert tortoises have not migrated into the impacted area. In the project area there is no current Habitat Conservation Plan for the Desert tortoise in this area. The Caltrans District 7 Office of Environmental Planning, Natural Sciences Unit, will conduct these surveys.*
3. *Caltrans would consider the potential off-site mitigation at either Saddleback Butte State Park or the Antelope Valley Indian Museum for desert tortoise and Mohave ground squirrel habitat. Consideration will be made by the Caltrans District 7 Office of Environmental Planning, Natural Sciences Unit.*
4. *Impacts to Desert tortoise may require land banking as mitigation, desert tortoise fencing, and/or construction of wildlife passageways.*
5. *Because there is significant historic data regarding the presence of the Le Contes thrasher within the project vicinity, further study would be performed during the breeding season. These surveys will be conducted by the Caltrans District 7 Office of Environmental Planning, Natural Sciences Unit.*
6. *The historic range and habitat for the Mohave ground squirrel is within the project vicinity. Because of the number of occurrences of this species listed by the NDDB within the project vicinity, further focused surveys and pre-construction surveys would be conducted in order to ensure that the species has not migrated into the project vicinity. These surveys will be conducted by the Caltrans District 7 Office of Environmental Planning, Natural Sciences Unit.*
7. *Impacts to the Mojave ground squirrel may require land banking as mitigation. Land banking to replace habitat could range from 1:1 to 5:1, e.g., for every acre (hectare)*

of habitat impacted; 1 to 5 acres would need to be purchased for mitigation. Consideration of this action will be made by the Caltrans District 7 Office of Environmental Planning, Natural Sciences Unit.

8. *Although the Prairie falcon and the San Diego horned lizard were not observed within the project vicinity, pre-construction focus surveys would be performed in the conservation areas within the project vicinity. The Caltrans District 7 Office of Environmental Planning, Natural Sciences Unit, would conduct these surveys.*

9. The rodent signs that are present in the project vicinity may be evidence of the more common varieties of the pocket mouse such as the California pocket mouse (Chaetodipus californicus) or other rodent species. Pre-construction trapping would be conducted to identify if there are any San Joaquin pocket mouse in the project area. The Caltrans District 7 Office of Environmental Planning, Natural Sciences Unit, will conduct this activity.

10. FHWA and Caltrans will consult with the United States Fish and Wildlife Service to ensure that any action they authorize is not likely to jeopardize the continued existence of any listed species in accordance with Section 7 of the Endangered Species Act.

Comparison of Alternatives

Most of the alternatives are located in areas where a listed species, according to the Endangered Species Act (either Federal or California), has the potential to occur. If a listed species may occur within the project area, then Caltrans will be responsible to conduct studies to determine the species presence or absence as required by the resource agencies. If a listed species is found within the Area of Impact, the mitigation cost will increase.

1) Option D and Option E may require a biological monitor on-site, during construction, for parts of these alternatives. The anticipated project duration for each alternative is not yet known at this time. Therefore, the estimated cost does not include a biological monitor on-site. The cost of a biological monitor could substantially increase the cost estimate for biological mitigation.
2) The implementation of box culverts within the design of the highways may be considered a measure to minimize harm to the flora and fauna. The location and design of the culvert may be considered a measure to minimize impacts of the highway.

4.8.1 Vegetation (14,24,27)

The desert ecosystem is very sensitive and even the smallest changes can disrupt it. The project area lies in the southwestern portion of the Mojave Desert. The project has several potential impacts with emphasis on vegetation. The Natural Environment Study for State Route 138 (Pearblossom Highway) From the City of Palmdale to State Route 18 in Unincorporated Los Angeles County suggests that there will be a substantial loss of native vegetation, such as Mojave Creosote Bush Scrub and Joshua Tree Woodlands and impacts to sensitive flora.

Table 26 Sensitive Flora in Project Area

Species	State/Federal Category	CEQA Determination	Comments
Pierson's Morning Glory *(Calystegia peirsonii)*	Federal species of concern/California Native Plant Society (CNPS) - species of limited distribution.	Not substantial	This species was not observed during surveys of the project area.
Pygmy poppy *(Canbya candida)*	CNPS 1B - rare or endangered in California and elsewhere.	Not substantial	This species was not observed during surveys of the project area.
Robinson's pepper-grass *(Lepidium virginicum, var. robinsonii)*	CNPS 1B - rare or endangered in California and elsewhere.	Not substantial	This species was not observed during surveys of the project area.
Rock Creek Broomrape *(Orobanche valida, ssp. Valida)*	Federal species of concern/CNPS 1B - rare or endangered in California and elsewhere.	Not substantial	This species was not observed during surveys of the project area.
Short-joint beavertail cactus *(Opuntia basilaris, var. brachyclada)*	Federal Species of Concern/CNPS 1B - rare or endangered in California and elsewhere.	Not substantial	These species were not identified within the project area.

Source: Caltrans District 7 Natural Environment Study January 2000

Measures to Minimize Harm

1. *Although the pygmy poppy was not observed during the various plant surveys performed to date, these plants are annuals and extremely small, and thus, additional surveys are would be performed during the plant's blooming period; which is from April to May (USFS, 1995).*
2. *The Robinson's pepper grass, Rock Creek Broomrape and the Short-joint beavertail cactus were not identified within the project area. There was not a positive identification for the rare variety of the cactus, additional surveys would be conducted prior to construction to ensure that this plant is not present.*
3. *For effects onto the habitat of drainage areas, Section 404, 401, and 1601 permits/approvals will be obtained by the Caltrans District 7 Office of Environmental Planning, Natural Sciences Unit. Conditions may include one or more of the following items:*
   a) *Handling of sensitive species, if found within the vicinity of the construction area is limited to a qualified biologist.*
   b) *Fencing will be placed along the alignment. It will serve two purposes: (1) Define the limits of temporary construction impacts, as well as protect environmentally sensitive areas, and (2) prevent sensitive wildlife such as coast horned lizards from drifting into the work area.*

c) *If unknown sensitive species are encountered after construction has commenced, the project will be halted until after consultation with the appropriate resource agencies.*

d) *Any vegetation that is removed will be replaced in accordance with Caltrans policy. A Vegetation Replacement Mitigation Plan will be prepared for onsite mitigation. Caltrans District 7 policy dictates that native flora removed from the site, whether planted or natural shall be replaced at a 10:1 ratio. This ratio is generally lowered for extremely large projects and if larger plants are used in the revegetation plan.*

e) *Planting should be done between October and March. This is the optimal plant establishment period for this biotic community.*

f) *Revegetation should be completed within one year after construction is completed.*

g) *Vegetation monitoring will be conducted for five (5) years to determine success of the revegetation plan. Caltrans will prepare a mitigation plan that will include restoring the site, planting, maintenance and monitoring to ensure an appropriate level of success.*

h) *The revegetation plan will include the plant palette, quantities and a drawing showing the plant locations.*

4. *Revegetation of all areas temporarily impacted during construction activities, particularly drainage areas and other areas with substantial biotic diversity and density. Revegetation will be performed both on-site and off-site. Plans for this activity will be prepared by the Caltrans District 7 Office of Environmental Planning, Natural Sciences Unit and the Caltrans District 7 Division of Landscape Architecture.*
5. *Off-site acquisition for permanent impacts, particularly for areas with valuable biological resources, such as drainage areas, will be considered. The amount of land depends on the quality and quantity of habitat impacted.*
6. *A Desert Vegetation Preservation Plan must be submitted for the review and approval of the City of Palmdale. The plan will identify Joshua tree locations within the project area and recommend additional management efforts in order to remain consistent with local ordinances. The plan would be applicable to all Joshua trees within the jurisdiction of the City of Palmdale, which includes the sections of the proposed project between Avenue T and Avenue T-8.*
7. *Invasive species would not be introduced as a result of this project. This would be achieved through some Best Management Practices, including:*
    a) *All equipment cleaning shall be conducted away from areas containing native plant assemblages*
    b) *All equipment will be cleaned prior to entering the work area from a distant locale, in this case outside the Antelope Valley*
    c) *All post-construction landscaping shall use species that, if not native, are not invasive*
    d) *A post-construction inspection by a landscape Architect and District Biologist will be conducted to inventory if this goal has been accomplished. If not, eradication methods will be established into any post-construction mitigation plan.*

4.8.2 Wildlife Movement/Habitat Fragmentation (30,31)

Wildlife Corridors

Wildlife corridors function as critical links between wildlife habitats. Many species during their life history require different habitats. Also, they may need to migrate due to seasonal changes, for breeding purposes, or possibly because of changes in forage conditions. Human activities may reduce habitat areas and displace species to other locations, which are often less desirable habitats. The Antelope Valley General Plan identifies two areas that are Significant Ecological Areas (see section 3.4). The areas are Little Rock Wash and Big Rock Wash. Little Rock Wash and Big Rock Wash are important, because they provide essential wildlife habitat and migration corridors.

Roads are considered to be a major impediment to wildlife movement due to the hazards the wildlife face trying to cross the roads. Within the State Route 138 study area, there are several major wildlife corridors. Frequently, riparian corridors are used for wildlife movement between habitats. Within the State Route 138 study area, the more significant of these corridors are Little Rock Creek/Wash, and the Big Rock Creek/Wash. The California Resources Agency and the Department of Parks and Recreation have determined that the bridges at Little Rock Creek/Wash and Big Rock Creek/Wash are sufficient to maintain a functioning wildlife corridor for both small and large animals.

Measures to Minimize Harm

1. *Prior to construction further studies will be performed to determine the level to which other washes and drainages may be used by wildlife.*
2. *Prior to construction the potential impacts of roads on pollinators (e.g. bees and moths) will be examined. A study will be conducted to determine whether widening the road will have a negative impact on the population of pollinators that are needed by the plants in the area.*
3. *Isolation and fragmentation of natural open space areas should be prevented wherever possible.*
4. *Natural stream drainages often serve as important movement corridors for wildlife, they should be preserved wherever it is feasible to do so.*

Comparison of Alternatives

The magnitude of environmental impacts varies somewhat among alternative alignments for the State Route 138 corridor. For instance, improving the existing alignment will probably have far less impact on wildlife corridors and migration patterns than a new transportation infrastructure. This is particularly important to consider in areas where sensitive wildlife species are likely to be present. Fencing and wildlife passageways may be necessary for alternatives involving new roadway and/or potentially impacting sensitive fauna; with the resultant additional costs for construction of these items and ongoing maintenance.

Biological Issues

Listed below are key issues that were considered in evaluating each alternative's overall impact:

- Waterways – Potential degradation of washes and other waterways throughout the area of impact were evaluated for each alternative. Locations shown as blueline

streams on USGS maps generally consist of greater biota diversity and have to be evaluated carefully to avoid and minimize impacts. More extensive habitat replacement and restoration activities will be needed along these washes and other drainage areas. The largest of areas are designated as Significant Ecological Areas (SEA's) by the County of Los Angeles and/or designated as Conservation Areas by the BLM. For example, Little Rock Wash and Big Rock Wash are SEA's and BLM Conservation Areas.

- Sensitive species – Impacts to sensitive flora and fauna and the proximity of alignments to the historic range and habitat for sensitive species were evaluated to determine which alternative would avoid or minimize impacting existing populations of these species to the greatest degree.
- Habitat fragmentation and wildlife corridors – habitat fragmentation and loss or degradation of wildlife corridors were other factors considered to determine relative impacts each alternative would have on habitat reduction and wildlife migration patterns.
- Native vegetation – substantial loss of native vegetation, such as mojave creosote bush scrub and Joshua tree woodlands is likely to occur with any of the alternatives selected. Native plant diversity, plant sizes, and densities were compared among the alternatives to establish relative impacts to the desert ecosystems. Impacts to joshua trees and creosote bushes are particularly significant.
- Flora and fauna diversity – Potential reduction in species' variety and densities within the area of impact was also considered among the alternatives. Typically, areas that become highly disturbed by human activities will experience a reduction in wildlife species (many animals will shy away from the activity) and non-native plant species will begin to out compete native vegetation. Exotic vegetation has become a major problem in the southwest, e.g., non-native plants invading Nevada sagebrush range lands are more easily ignited by strikes of lightening and have caused huge, uncontrolled wildfires (Boxall, October 24, 1999).

Alternative 1 Design variations A: South of Llano del Rio Hotel and B: South of Llano del Rio Hotel and North of U.S. Post Office

Improving the existing State Route 138 between State Route 14 and State Route 18 involves widening of an existing facility only, and as such, sensitive biological resources are much less likely to be impacted than with the other proposed alternative alignments. Habitat along many areas of State Route 138 has been highly disturbed and degraded by human activities.

Although native vegetation is dominant, a substantial amount of non-native vegetation may be found along a large percentage of the route. As expected, the amount of disturbed and degraded habitat is most prevalent near the more developed areas.

The eastern portion of this alternative appears to be just below the area identified by the Bureau of Land Management (BLM) as Desert Tortoise Management Category III. Category III has very low densities of tortoises and it is unlikely a desert tortoise will be found. However Caltrans would coordinate closely with the USFWS to determine any appropriate mitigation.

In addition, this alternative crosses Little Rock Wash and Big Rock Wash, considered Significant Ecological Areas (SEA's) by Los Angeles and Conservation Areas by the BLM. Activities impacting these locations will require coordination with these agencies, as well as the resource agencies, for the 404, 401, 1601 permits/approvals.

Design variation C: South of Llano del Rio Hotel
Design variation C involves all the features of alternative 1, with the exception of the Llano del Rio Site. In this area a new alignment will be constructed 393.7 ft (120 m) to the south of the Llano del Rio Site with a raised profile of 15 ft (4.6 m). In this area, a portion of the alignment will involve constructing a new facility over relatively undisturbed native vegetation. This variation would result in habitat fragmentation and create a barrier to wildlife movement. The distance of the new alignment would be approximately 6300 ft (1900 m).

Design variation D: Avenue V, Fort Tejon and Avenue V-8
Design variation D involves all the features of alternative 1, with the exception of the Littlerock area. In this area, a portion of the alignment will involve constructing a new facility over relatively undisturbed native vegetation. The distance of the new alignment would be approximately 26,500 ft (8000 m).

New roadway segments not only permanently reduce a less disturbed habitat than widening activities, but also fragment the habitat and create barriers to wildlife movement through out the area impacted. Wildlife corridors and migration patterns will be impacted; the resource agencies may require fencing and/or wildlife passageways along the new roadway segments.

Design Variation E: Avenue V
Design Variation E involves all the features similar to Alternative 1, with the exception of the Littlerock area. Similar to design variation 4 a portion of the alignment in the Littlerock area will involve constructing a new facility over relatively undisturbed native vegetation. The distance of the new alignment would be approximately 29,000 ft (8900 m).

As already noted new roadway segments not only permanently reduce a less disturbed habitat than widening activities, but also fragment the habitat and create barriers to wildlife movement through out the area impacted. Wildlife corridors and migration patterns will be impacted; the resource agencies may require fencing and/or wildlife passageways along the new roadway segments.

Alignment with the Least Biological Impact
An assessment was made of the above to determine which alternative would have the least impact on the natural resources within the Mojave Desert. Clearly, Alternative 1 – Design variations A and B have the least impacts to natural resources of the five (5) alignments based on the following general factors:

- Alternative 1 – Design Variations A and B involves the least amount of new facility construction
- This alternative is along an area that is more urbanized, disturbed, than the other alternatives

- This alternative is estimated to involve less acres of habitat that will be permanently impacted by the roadway improvements. The exact number of acres will be determined during final design.

An evaluation of the key environmental issues is provided below:

- Waterways – The potential increase for an increase in degradation of washes and other waterways throughout the area of impact would be greater for Design Variations D and E because these alignments would double the number of existing culverts to accommodate washes crossing both State Route 138 and the new alignment within the Littlerock area.
- Sensitive species - Since many areas of State Route 138 are already fairly disturbed and ruderal in nature, impacts to sensitive flora and fauna would generally be less than the alternatives involving new roadway segments through the desert ecosystem.
- Habitat fragmentation and wildlife corridors – Clearly, Alternative 1- Design variations A and B are the only alternatives, which will not dramatically increase habitat fragmentation and loss or degradation of wildlife corridors.
- Native vegetation - It is more likely that because Design variation C and Design variation D and E involve new roadway segments that the loss of native vegetation will be greater with these alignments. Additionally, during surveys, native plant diversity, plant sizes, and densities were generally greater for Design variation D and E.
- Flora and fauna diversity - Alternative 1 – Design variation A and B already show a substantially reduced variety and density in species within the area of impact in comparison to the other alternatives. Widening along the existing State Route 138 will primarily impact areas already disturbed.

Assuming that all additional pre-construction biological surveys support current data, it is likely that as long as measures to avoid and minimize biological impacts are employed, impacts of constructing Alternative 1- Design variation A and B may be reduced to a level of insignificance under CEQA.

4.8.3 Wetlands (14)

The wetland delineation that was completed for the State Route 138 widening project identified three locations for potential wetlands. The locations identified are Little Rock Wash, Big Rock Wash, and near the State Route 138 and State Route 18 junction. The wetland delineation completed for the State Route 138 widening has identified one area that qualify for both State and Federal wetlands and two areas that classify only for State wetlands. Potential impacts would result from new bridge piers, and increased shading that would be caused by the new bridges in the project area.

At the time of the field survey, Little Rock Wash consisted of areas that were dry, with the eastward channel having flowing water (25 August 2000). From the past observations it appears that Little Rock Wash has water flowing year round. Although speculative, it may be that the dam upstream releases small amounts of water year round there-by providing a year round source of water. The soil was hydric, with riparian vegetation in the area mostly along the edges of the current water flow. A profile of the soil at 0-1 inch, according to the Munsell soil color chart (1994), shows a value of 2.5/1 5BG Gley with greenish black color. As a

result of the water flowing, it appears hydric soil and hydrophtic vegetation has formed. The total cover of riparian vegetation is approximately 30 % with the dominant vegetation consisting of mature stands of mulefat and some sycamore trees. The Federal wetland jurisdiction is delineated to approximately five feet from the water edge. Outside of the streamflow there is approximately 30 % vegetation cover. The area under Little Rock Bridge does meet the three criteria and is considered a Federal and State wetland.

At the junction of Route 138 and 18, Graham Canyon Wash was shown on the U.S.G.S. topography as ephemeral blue line stream. On the south side of State Route 138, which is upstream, a culvert runs underneath Route 138. This culvert has created an area where water collects, at times, due to insufficient culvert capacity. This has created an area that appears to be a possible wetland. Within this area the total plant coverage was approximately 95%. Species found included chia (*Saliva columbariae*), four winged salt bush (*Artiplex canescens*), and two sub-species of rabbitbush (*Chrysothamus nauseosus* spp.). In comparison, the upland surrounding this area had a plant density/cover of approximatley 70 %. Within the area of the wetland assessment, the soil had no organic matter and no hydric features other than cracking on the surface. A profile description showed at 0-3 inches the value/chroma was 3/2 2.5YR with dusky red colour. The 3-10 inch profile had a value/chroma of 3/4 2.5YR with a dark reddish brown colour. The vegetation was dominated by non-riparian species. Curly dock was the only wetland indicator species, which consisted of approximately five percent of the total vegetation. The vegetation was dominated by non-riparian species. This area is a State wetland based on hydrology but is not a Federal wetland.

Big Rock Wash was examined and also underwent wetland delineation. Big Rock Wash is a highly disturbed area due to maintenance activities. The area surrounding Big Rock Wash has large cobbles, with no water flowing during the assessment. The riparian vegetation in Big Rock Wash was sparse with a few patches scattered throughout the area. Due to maintenance activities no hydric soil or organic matter was present. Fine sand was present on top of the cobble and boulders. Since Big Rock Wash did not meet the soil criteria, it would not be classified as a Federal Wetland: however it does meet the criteria for a State wetland.

The impacts created from building new bridges in the project area can be mitigated, and the mitigation would be established in the permit consultation with the U.S. Army Corps of Engineers, California Department of Fish and Game, and the State Water Quality Control Board. This project would require a 404 permit from the U.S. Army Corps of Engineers, a 401 permit from the State Water Quality Control Board and a 1601 Streambed Alteration Agreement from California Department of Fish and Game.

4.9 Growth Inducing (35)

NEPA regulations 40 CFR Section 1508.8 calls for a discussion of a project's indirect effects, which "… may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density and growth rate, and related effects on air and water and other natural systems, including ecosystems." The California Environmental Quality Act (CEQA) guidelines (15126[a]) specify that "… significant environmental effects of the proposed project…" would include"…changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, scenic quality, and public services."

The Antelope Valley General Plan 1986 lists the following development-related principles:

- All development in the rural communities of Littlerock, Pearblosssom and Llano must be of a infill nature.
- Commercial development should coincide with the rural western motif of the communities.

The Antelope Valley General Plan recognizes the unincorporated areas of Littlerock, Pearblossom, and Llano as areas of low-density lifestyle that characterizes much of the Antelope Valley. The General Plan promotes the protection of the existing rural communities as well as recognizes the urban centers such as Palmdale in the Antelope Valley. These rural communities offer an attractive low-density life style integrated into the natural environment and with the proposed project it should be maintained at the same level it is currently at.

The City of Palmdale is strategically located with respect to the Antelope Valley, San Joaquin Valley, Owens Valley and the San Fernando Valley/Los Angeles Basin. With direct access to State Route 14 (Antelope Valley Freeway) and Highway 138, as well as rail access via the Southern Pacific Transportation Company, Palmdale is readily accessible to commuters and future commercial or industrial users. The City of Los Angeles Department of Airports owns approximately 17,500 acres earmarked for a regional airport within the City of Palmdale. Once the regional airport is built there will be a significant increase in population and commercial properties due to an increase in employment and future needs. Palmdale has experienced the highest growth rate of any city in California since 1980 (586%) . Although the rate of growth has diminished from 1989 to the present, indications are strong that residential growth will continue, due to relatively low housing prices as compared with the rest of Los Angeles County.

The City has been in a development boom with the potential to be an example to the region in terms of growth patterns. The likelihood is greatest that future growth in the project area would occur in conformance with local plans and policies, rather than in new, induced areas as a result of widening State Route 138. The proposed project has been designed to facilitate growth. Planned growth may also occur due to the improvements to the transportation facility. It should be noted that growth and land use decisions are the responsibility of local jurisdictions and are under their control

In summary, the proposed project has been designed to accommodate but not exceed the traffic volume capacities anticipated in 2024; the No Action Alternative is expected to operate at unacceptable levels of service. Additionally, the proposed project is consistent with the

growth and planning goals of the local jurisdictions, and with the "pre-existing" planned growth in the area. Caltrans, the City of Palmdale and Los Angeles County have been in close coordination for several years identifying the need for the project. Based on this information, and in accordance with NEPA and CEQA, it is concluded that the proposed project facilitates planned growth and would not induce growth.

4.10 Lifestyles, Neighborhood Stability (36)

Potentially disruptive effects to existing residential areas near or adjacent to State Route 138 would be related to the modification of neighborhood accessibility and circulation, visual effects, and noise effects.

Residential areas presently exist adjacent to or near the project right of way in all of the communities along the corridor. These areas would experience short-term construction related impacts such as increased truck traffic, noise, dust, visual impacts, detours, etc.

The Antelope Valley General Plan recognizes the unincorporated areas of Littlerock, Pearblossom, and Llano as areas of low-density lifestyle that characterize much of the Antelope Valley. The General Plan promotes the protection of the existing rural communities as well as recognizes the urban centers such as Palmdale in the Antelope Valley. These rural communities offer an attractive low-density life style integrated into the natural environment and with the proposed project it should be maintained at the same level at which it currently is.

4.11 Elderly or Specific Interest Groups, Housing and Employment (39)

The only change would be the distance that a disabled or elderly person would have to travel across State Route 138. Instead of disabled or elderly person crossing a two-lane highway they would now have to cross a four-lane highway. To assist the elderly and disabled across the road, a traffic signal will be provided at 82nd Street East. Sidewalks will be provided on both sides of the highway in the Community of Littlerock. In Pearblossom a sidewalk will be provided on the south side. Median refuge areas to assist those crossing the highway will be considered at various intersections. Locations and sizes will be determined during the design phase of the project.

4.12 Housing and Employment (40,41)

Relocations: Commercial and Residential

Along the proposed project area there will be relocation and acquisition of commercial and residential property. The majority of parcels to be acquired are partial acquisitions and commercial properties. The majority of businesses are retail stores or shops that employ skilled and non-skilled workers. The relocation of a few businesses will be required and the remaining businesses will require temporary construction easements for the use of the property through construction completion. This impact would be minimal and temporary until construction is complete.

All displaced businesses and farms will be subject to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended in 1987. The Uniform Relocation Assistance Program was developed to help displaced individuals move with as little

inconvenience and expense as possible, and all benefits and services will be administered to the general public without regard to race, color, national origin, or sex, in compliance with Title VI of the 1964 Civil Rights Act (42 USC 200d.et seq.). The Uniform Relocation Assistance program provides that:

> Caltrans will provide relocation advisory assistance to any person, business, farm, or non-profit organization displaced as a result of the department's acquisition of real property for public use. The department will assist displacees in obtaining replacement housing by providing current and continuing information on the availability and prices of houses for sale and rental units that are comparable, "decent, safe and sanitary". Non-residential displacees will receive information on comparable properties for lease or purchase.

The Business and Farm Relocation Assistance Program provides aid in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program can provide, when requested, a current list of properties offered for sale or rent, suitable for specific relocation needs. The types of payments available to business, farms and non-profit organizations can be summarized as follows:

- The expenses incurred in moving inventory, machinery, office equipment and similar business related personal property dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property.
- Payment for "actual direct" losses of personal property that the owner elects not to move.
- Expenses related to searching for a new business site could be reimbursed up to $1,000 for actual reasonable cost incurred.
- Re-establishment expenses relating to the new business operation.

Payment "in lieu" of moving expenses is available to businesses which are expected to suffer a substantial loss of existing patronage as a result of the displacement, or if certain other requirements such as inability to find a suitable relocation site are met. This payment is an amount equal to the average annual net earnings for the last two taxable years prior to relocation. Such payment may not be less than $1,000 and not more than $20,000.

Following final design, final estimates of land taking would be made and access requirements would be established. Where possible, land exchanges would be investigated to reduce the effect of severed parcels.

Table 27 shows the number of single family residential, multi-residential, improved commercial and non-profit residential buildings that will be acquired in the best case scenario.

Table 27 Best Case Scenario for Right-of-Way acquisition for the communities of Palmdale, Littlerock, Pearblossom and Llano.

	Littlerock		Pearblossom		Llano		Palmdale
	Full	Partial	Full	Partial	Full	Partial	All Partial
Single Family Residence	2	11	0	19	0	4	0
Multi-Residential	1	2	0	5	0	0	0
Improved Commercial	3	43	0	27	0	2	0
Non-Profit	2	4	0	2	0	2	0
All Partial [2]	RL-22, AG-4, VL-23, PL-2, I-0, U-8, E-1, CL-3		RL-14, VL-31, CL-40, I-1, IL-3,PL-1, MHP-1, AG-13		CL-5, VL-96, IL-2, I-1, RL-5		RL-2, AG-1

Source: Draft Relocation Impact Report 1998

Table 28 Worst Case Scenario for Right-of-Way acquisition for the communities of Palmdale, Littlerock, Pearblossom and Llano.

	Littlerock Full Takes	Pearblossom Full Takes	Llano Full Takes	Palmdale Full Takes
Single Family Residence	13	4	1	0
Mu1ti-Residetial	3	1	0	0
Improved Commercial	25	16	1 (I)	0
Non-Profit	3	3	1	0

Source: Draft Relocation Impact Report 1998

The following reflects the best and worst case scenarios for right-of-way acquisition from the Draft Relocation Impact Report and are based upon Alternative 1 (widening along the existing alignment).

Littlerock

In Littlerock, 13 residential (best case) parcels will be impacted partially and 3 residential partials will be impacted fully and 52 improved commercial and non-residential (best case) parcels will be impacted due to right-of-way requirements. The estimated breakdown of employees to be displaced in the community would be: 15 jobs displaced in Littlerock with best case scenario and 75 jobs displaced with worst case scenario.

Pearblossom

The new alignment of State Route 138 would shift the existing alignment to the north in order to reduce impact to commercial and residential property. Therefore there will be no relocation impacts in the community of Pearblossom as seen in Table 27. Prior to the new alignment the

[2] RL= Residential Lot; AG= Agricultural; VL= Vacant Lot; PL= Parking Lot; IL= Industrial Lot; U= Utilities; CL= Commercial Lot; E=Easement

community would have the worst case scenario as seen in Table 28. The number of partial takes in Pearblossom would be 24 residential properties and 29 commercial and non-profit parcels that would be impacted due to right-of-way requirements.

Llano

Llano will have a minor amount of displacement. Llano will have 4 residential parcels partially impacted and 5 improved commercial or non-residential parcels partially impacted. The estimated breakdown of employees to be displaced in the community ranges from 0 jobs displaced in Llano in best case to 5 jobs in the worst case scenario.

The greatest displacement will rest on the communities of Littlerock and Pearblossom. Llano will have a minor amount of displacement. For the study area as a whole, approximately 10 employees in the best case scenario would be displaced by the proposed project. In the worst case scenario the acquisition would result in 107 employees would be displaced. The City of Palmdale would not suffer any employee displacement.

The exact number of parcels that will be in the project right-of-way will be determined in the Final Relocation Impact Report. As for the number of residential displacees they would be minimal and there would be no difficulty in finding replacement residential property within the project area that is affordable and accessible to public services.

Employment

The current commercial property is directed towards the traffic that passes along the existing State Route 138 corridor. The State Route 138 corridor brings business to the neighboring communities and continues to provide the economic base for these rural communities.

The number of commercial properties affected by the project right-of-way leads to employee displacement. The anticipated job displacement in the project area was measured with the Southern California Association of Governments (SCAG) Employment Forecasts for Los Angeles County for the year 2000 and 2010 using information from the 1990 US Census Data. According to the projected SCAG Employment Forecasts by Census Tracts there will be 3,114 jobs available in these communities for the year 2000 and 5,548 jobs by the year 2010.

It should be understood that when employment displacement would occur initially most, if not all of the displaced employees can be expected to find employment, either in the relocated business itself or at a similar business in another location. Given the nature of the affected business, the ability of the marketplace to absorb employees, the relocation efforts of the right-of-way staff, and the support of the affected communities, it is anticipated that the actual loss of jobs would be minimal.

4.13 Minority (37)

This Environmental Impact Report/Environmental Assessment considers not only The *National Environmental Policy Act* (NEPA) requirements, but also those of Title VI (see Appendix F) of the *Civil Rights Act of 1964*, as amended, as well as *Executive Order 12898*.

Title VI requires that no person, because of race, color, religion, national origin, sex, age, or handicap, be excluded from participation in, denied benefits of, or be subjected to discrimination by, any federal aid activity. *Executive Order 12898* broadens this requirement to mandate that disproportionately high and adverse health or environmental impacts to

minority and low-income populations be avoided or minimized to the extent possible. Implementation of the State Route 138 improvement project will not result in disproportionately high or adverse impacts on minority or low-income neighborhoods or communities. No denial or substantial delay in the receipt of benefits from Caltrans programs, projects, policies, or activities is expected to occur.

The Department of Housing and Community Development (HCD) gives income definitions for the housing needs in the area. The two income levels that are of interest are the very low income and the low income. The very low income for HCD is 50 % of median income or below. In 1995-96, families earning less than $25,650 were classified very low income. The low income housing for HCD is between 50% and 80% of median income. For a family of four in 1995-96, low income was $41,050. The City of Palmdale is required by SCAG to provide sufficient housing for low and very low income. The proposed project will not affect any of the low-income housing. Table 16 shows the median family income.

In the project area all possible care was taken in the selection and processing of the Caltrans right-of-way. The project right-of-way took into account minority and low-income populations in order to avoid and minimize harm in the communities of Palmdale, Littlerock, Pearblossom and Llano.

4.14 Property Values, Local Tax Base (41)

The proposed highway-widening project would create local short-term fiscal impacts as a result of right-of-way acquisition. The proposed build alternatives would have an impact due to the removal of acquired property from the local tax base. The acquisition of additional right-of-way and the resultant loss in taxable property, however, would be minimal compared to the total tax assessment base, since there is adequate space for relocation of displaced businesses within the local vicinity.

Positive effects would occur if the inducement of better transportation conditions encourages businesses to relocate into the project study area. Property value in the project area would be expected to increase as a result of improved access, resulting in higher property tax yield. Business sales and volume in the area would also be expected to improve due to improved access for customers, resulting in higher sales tax yield.

Under the No Action Alternative, there could be some reduction in the tax base if increased congestion and poor access discourage consumers from coming to the area.

4.15 Community Facilities (42)

Equestrian Trails

Currently equestrian trails have not been formally designed for the project area, but extensive plans exist for many proposed trails. The Los Angeles County Department of Parks and Recreations has developed a Master Plan that identifies 5 equestrian trail crossings and 2 more identified by Antelope Valley Trails, Recreation and Environmental Council (AVTREC) as of 1999. They are Littlerock Wash Bridge, 96th Street East, 121st East, Big Rock Wash Bridge and Largo Vista road. AVTREC has identified the two crossings at 89th Street East and 165th Street East.

The following is a list of measures to ensure the project design does not preclude implementation of the plans for trails. Antelope Valley Trails, Recreation and Environmental Council (AVTREC) is an advisory ground for the County Master Plan.

Measures to Minimize Harm

96th Street Crossing

1) *Bridge widening; and separate pedestrian/equestrian crossing*

121st Street Crossing

1) *As part of the Caltrans project design features for the highway-widening project the need for a demand signal will be studied.*

Big Rock Wash Crossing

1) *The County is requesting the use of the West Side of this crossing for equestrian trails*
2) *Caltrans will study the possibility of maintaining a 10-foot (3.0 m) clearance at this bridge and a path width of 8-ft (2.4 m) to allow sufficient clearance and minimize possibility of rider being trampled if the horse jumps sideways. If sediment reduces clearance, Caltrans will study the possibility of signage on both sides of the trail, which will instruct equestrians to dismount and walk horses*
3) *With respect to safety & flood control, the county currently does not provide signage to discourage trail use during rains*

Littlerock Crossing

1) *The new bridge at this crossing will have 3% slope. Clearance will range from a 15-foot (4.6 m) width to 13-foot (4.0 m) width, not accounting for sediment. It was noted by the County that the clearance at this location is sufficient for equestrian trails*
2) *In the case that the bridge is designed without a 10-foot (3.0 m) clearance, Caltrans will study the possibility of providing signage to instruct equestrians to dismount and walk horses and provide adequate path width in which to lead horses.*
3) *With respect to safety & flood control, the county currently does not provide signage to discourage trail use during rains*

The design and building of equestrian trails follow certain general standards and they would consist of:

1) Grades shall not exceed 10 percent, except that for distances less than 300 feet (91.4 m), 15 percent shall be permitted to avoid switchbacks.
2) Drainage - provide surface drainage by rolling the grade and outsloping the surface, installing water bars (modified water bars or rubber water deflectors), and using metal or wood culverts or open rocks to provide cross drainage.
3) Clearing - trees and shrubs will be cleared to a minimum width of 8 feet (2.4 m), and overhead clearance shall be 10 feet (3.0 m), minimum, above the trail tread.
4) Trail tread width of 10 feet (3.0 m) is desirable where cut and fill is not required. A minimum width of 4 feet (1.2 m) is required, with 6 to 8 feet (1.82 m to 2.4 m) around corners and in hazardous areas.
5) Sharp switchbacks should be avoided. In areas where they are unavoidable, the trial should be structurally reinforced.

6) Based on the development plan, fencing shall be provided to confine equestrians to the trail where safety hazards or destruction of adjacent properties or vegetation may occur.
7) Surface county road crossings must have painted black and white crosswalk strips and warning signs to motorists, of the equestrians crossing the road.
8) Equestrian tunnel is to be a minimum of 8 feet wide (inside) and 10 feet (3.0 m) high (head clearance) with a complete drainage system. The ingress and egress ramp to the tunnel must not exceed 15 percent grade. Concrete surface is to be rough broom finish. The construction will be the box culvert type.
9) All identification and directional signs shall be uniform throughout the project, and provided for safety and control.
10) All equestrian entrances are to have motorcycle barriers installed.
11) Natural character of the site shall not be disrupted.
12) All work shall conform to all governing codes and Los Angeles County ordinances and standard specifications for public works construction.
    a) Trails shall remain within the park boundary.
    b) Natural character of the site shall not be disrupted.
    c) Grades shall not exceed 10 percent; except that for distances less than 300 feet (91.4 m), 15 percent shall be allowable.
    d) Trail tread width of 10 feet (3.0 m) is desirable where cut and fill is not required. Minimum width of four feet is required, with six to eight feet around corners and in hazardous areas.
    e) Sharp switchbacks should be avoided. In areas where they are unavoidable, the trail should be structurally reinforced.
    f) Barriers, of materials compatible with the site, shall be provided to confine equestrians to the trail where conflict may occur with adjacent properties or with other uses, and in areas where they may destroy vegetation or elements desirable to the site.
    g) Signs shall be provided as required for safety and control.

4.16 Public Utilities and Services (43)

A Utility Impact Report has been completed for the State Route 138 widening project. The addition of two new lanes and passing lanes will result in the relocation of minimal amount of utilities in the project area. The affected utilities would be relocated in accordance with State law and regulations and Caltrans' policies. There would be ongoing coordination between Caltrans, FHWA, affected agencies, and utility companies to minimize potential disruption of utility services.

The project site would affect the U.S. Post Offices that are located in the communities of Pearblossom and Llano. The Post Office that is located in the community of Littlerock was already in the process of being relocated prior to the establishment of the project area. In the worst case scenario the Post Offices in the communities of Pearblossom and Llano would be relocated. The areas that are going to be effected are: Avenue T to Longview Road; Longview Road to 165th St.; 165th St. to Avenue W; Avenue W to Largo Vista (PM 65.5, KP 105.4 to

67.3, KP 108.3) and from Largo Vista to Junction 18 (PM 67.3, KP 108.3 to 69.4, KP 111.68). Table 29 shows the location and type of utility being relocated along the project area.

Table 29 Sites of Utility Relocation in Project Area

	Avenue T to Longview Road	Longview Road to 165th St.	165th St. to Avenue W	Avenue W to Largo Vista	Largo Vista to Junction 18
Overhead Facilities					
Edison	48 Power Poles 3 Guy Poles	13 Power Poles	19 Power Poles	53 Power Poles	32 Power Poles
GTE	38 Telephone Poles	-	-	-	-
Underground Facilities					
Southern California Gas Co.	1" gas line = 853 ft (260 m) 4" M. gas line = 7480 ft (2280 m)	-	-	-	-
Little Rock Irrigation District	2" line = 820 ft (250 m) 8"line = 6300 ft (1920 m) 6" line = 919 ft (280 m)	-	-	-	-
MCI		Fiber Optic Cable 4"duct= 57,414 ft (17500 m)			
Los Angeles County Water District	8" line = 820 ft (250 m) 6" line = 5610 ft (1710 m)	10" line = 787 ft (240 m) 6" line = 5314 ft (1620 m)	-	-	-
Pacific Bell	*Buried Cable* 2 Buried Cable = 11,650 ft (3550 m) 1 Buried Cable = 15,100 ft (4620 m) *Ducts* 2 Ducts = 11,650 ft (3550 m) 9 Ducts =656 ft (200 m) 11 Ducts = 6360 ft (1940 m) 13 Ducts = 656 ft (200 m) 15 Ducts = 1050 ft (320 m)	*Buried Cable* 2 Buried Cables = 755 ft (230 m) 1 Buried Cable = 328 ft (100 m)	*Buried Cable* 1 Buried Cable = 1180 ft (360 m)	*Buried Cable* 1 Buried Cable = 4420 ft (1350 m)	*Buried Cable* 1 Buried Cable = 2345 ft (715 m)

Source: Caltrans Utilities Relocation Study 11/22/99

4.17 Traffic and Circulation (44, 45,50)

Traffic Circulation

State Route 138 widening will enhance traffic circulation by improving the Level of Service (LOS) from level D/E to Level of Service B at the end of project completion. It will also benefit the local communities by optimizing the movement of people, goods, and services in a safe and efficient manner.

According to the California State CEQA guidelines, a project will normally have a significant effect on the environment if it will cause an increase in traffic that is substantial to the existing traffic load and capacity of the street system.

As compared to year 2024 baseline conditions, this project is expected to shorten work-trip travel times, increase average p.m. peak-hour highway speed, reduce daily hours of delay for all trips, and decrease the percent of all p.m. hours travel that are delayed, thereby improving regional mobility.

Parking

A parking study was not done at this time for this project, but one will be included in the final EIR/EA. The Los Angeles County Department of Public Works, Traffic and Lighting Investigations was contacted concerning parking issues in relation to the proposed project. They stated that they would analyze the parking issues on an "as needed" basis or towards the design stage of the project. Caltrans has been coordinating with the Keppel Union School District to develop a plan to mitigate impacts to their parking and circulation at Alpine Elementary School.

Measures to Minimize Harm

1. *A Traffic Management Plan (TMP) would be completed for the construction of the project during the final design preparation. Adequate public notices and posted announcements will be required to alert motorist about different construction stages and lane closures. Also posted announcements would be required to alert motorists/consumers that businesses are still open during construction.*
2. *Caltrans will continue to work with Los Angeles County Department of Public Work on parking issues.*
3. *Caltrans will continue to coordinate with Alpine Elementary School*

4.18 Cultural/Historic Resources (51)

According to the Historic Property Survey Report, the Area of Potential Effect (APE) contained 124 properties and 5 bridges. The study found that none of the structures appear to meet the criteria of eligibility for inclusion in the National Register of Historic Places. Likewise, Caltrans has evaluated the properties in accordance with Section 15064.5(a, 2-3) of the CEQA guidelines and determined that none of the resources are historical resources and for the purposes of CEQA. Furthermore, there does not appear to be a National Register-eligible historic district or cultural landscape within the APE.

While no prehistoric archeological sites were identified within the project area, the historic Llano del Rio Cooperative colony would be effected by the project. The remnants of the colony (which consists of approximately 2100 acres)lie on both sides of State Route 138 with visible ruins serving as key landmarks to identify the center of the colony. The Llano del Rio Colony is already recognized as California Historical Landmark No. 933 and, by virtue of that registration, is also listed on the California Register of Historical Resources. The colony also appears to be eligible for the National Register of Historic Places as a discontiguous historic district. If project plans are changed, additional survey work will be required on any area not previously surveyed. If during construction, buried cultural remains are encountered, it is Caltrans policy that all work in that area be stopped until a qualified archeologist can evaluate the nature and significance of the find.

Section 106 of the National Historic Preservation Act has established very specific guidance for finding that a project has an effect on a historic property. Section 106 requires such a finding:

> …when the undertaking may alter characteristics of the property that may qualify the property for inclusion in the National Register. For the purpose of determining effect, alteration to features of a property's location, setting, or use may be relevant depending on a property's significant characteristics and should be considered… An undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to:
>
> 1) Physical destruction, damage, or alteration of all or part of the property
> 2) Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;
> 3) Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting
> 4) Neglect of a property resulting in its deterioration of destruction; and
> 5) Transfer, lease, or sale of the property… (36CFR80).

Under CEQA, a project would have a significant effect on the environment if it would disrupt or adversely affect any of the following:

- A historic or prehistoric archeological site
- A property of historic or cultural significance to a community,
- Ethnic or social group
- A paleontological site (except as a part of a scientific study).

All build alternatives would affect the Llano del Rio site. Alternative 1 – Design variation B would have the least impact.

Measures to Minimize harm

1. *Mitigation measures will be identified and considered through the public comment on this document and in completing consultation with the State Historic Preservation Officer pursuant to section 106 of the National Historic Preservation Act (36 CFR 800).*
2. *If during project construction additional cultural materials appear, work will stop in the immediate area. The District 7 Archaeologist will be notified upon such discovery and appropriate measures will be performed to mitigate the impacts to the resource. Work may only resume with approval from the Caltrans Archaeologist.*
3. *The site would be designated and managed as an Environmentally Sensitive Area (ESA).*

4. *Permanent fencing and vehicular gated will be installed as the first construction activity along this section of highway. These fences would extend along the north and south right-of-way boundary lines from 165th Street to 175th Street through the former urban core of the community. Vehicular gates would be placed to allow access to existing private dirt roads.*

4.19 Cumulative Effects (58)

Preparation of this section is in accordance with California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The CEQA Guidelines, Section 15130, states that "cumulative impacts shall be discussed when they are significant. The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided of the effects attributable to the project alone." Under 40 CFR 1508.7, cumulative effects "which result from the incremental consequences of an action when added to other past and reasonably foreseeable future actions" shall be discussed.

The Antelope Valley General Plan and the Los Angeles County Growth Management Plan EIR were reviewed to determine whether the proposed State Route 138 project impacts were already included in the analysis. If not, the State Route 138 project impacts were then added to the forecasted impacts to determine the likelihood that cumulative impacts would occur.

Geology and Soils

Seismic hazards are experienced throughout Southern California, including in the project area. With or without the State Route 138 project, people would be exposed to such hazards as fault displacement/ground rupture, seismic groundshaking, liquefaction, differential settlement, subsidence, and landslides. The project would not increase or decrease these hazards, nor would it introduce additional population into an area where these hazards exist. Thus, the project would not contribute to cumulative geology or soils impacts.

Land Use and Socioeconomic

The Antelope Valley General Plan recognizes the unincorporated areas of Littlerock, Pearblossom, and Llano as areas of low-density lifestyle that characterize much of the Antelope Valley. The General Plan promotes the protection of the existing rural communities as well as recognizes the urban centers such as Palmdale in the Antelope Valley. The preferred alternative would require acquisition of approximately 3 full takes and 41 partial takes of residential property through he communities of Littlerock, Pearblossom and Llano. It would also require 5 full take and 82 partial takes of non-residential property through the communities of Littlerock, Pearblossom and Llano. There is adequate replacement housing the area. Therefore, the project would not contribute to cumulative population or housing impacts. Most, if not all, of the displaced employees can be expected to find employment, either in the relocated business itself or at a similar business in another location.

The project would provide short-term employment opportunities (construction) and contribute to an overall increased economic activity in the long term by improving accessibility within and to the project area. Thus, the project's contribution to cumulative economic impacts would be neutral to beneficial; depending on the ability to relocate displaced businesses in the local area.

Traffic and Transportation

By design, the State Route 138 project would have beneficial traffic and transportation impacts, and would not contribute to cumulative adverse impacts.

Air Quality

As a result of congestion reduction which would result from the project, the State Route 138 improvements would have a beneficial impact on air quality, and would not contribute to cumulative adverse impacts. The proposed project is included in the Regional and Federal Transportation Improvement Plan and is consistent with the Regional Transportation Plan that further the goals of the Clean Air Act.

Noise

The majority of the project area is surrounded by open space. The noise-sensitive land uses that front State Route 138 are now, and would continue to be, exposed to adverse noise impacts. The only feasible form of noise abatement along State Route 138 is soundwalls. In some locations, however, such walls would block views of highway dependent business and may not be desirable. Since, the businesses and residences have driveways and walkways abutting the highway, soundwalls would provide only 2-3 dBA of attenuation due to sound flaking. In addition, sight distance and sidewalk access requirements per Highway Design Manual section 1102.4, Noise Barrier location, cannot be satisfied with the placement of soundwalls in any reasonable location. If mitigation is not fully implemented, noise impacts related to State Route 138 improvements would contribute to the existing and growing noise impacts.

Biological Resources

Habitat area along many areas of State Route 138 has been highly disturbed and degraded by human activities. There are no federal wetland impacts. Impacts to riparian vegetation will be temporary and mitigated based on coordination with the responsible resource agencies. The proposed project has the potential to impact wildlife corridors. The California Resources Agency and the Department of Parks and Recreation have determined that the bridges at Little Rock Creek/Wash and Big Rock Creek/Wash are sufficient to maintain a functioning wildlife corridor for both small and large animals.

Archaeological/Historical Resources

The Llano del Rio site is within the Area of Potential Effect and is eligible for the National Register of Historic Places. This site will be affected by the proposed project. Mitigation will be conducted after completing consultation with the State Historic Preservation Officer pursuant to Section 106 or the National Historic Preservation Act (36 CFR 800).

Hydrology

Although present quality is satisfactory, there is a slow trend toward reduced groundwater quality, due to increased urban run-off, septic tank failures in the San Gabriel watershed, declining water tables, and an extensive perched water condition in the Lancaster sub-unit of the Antelope Valley Basin (this sub-unit presently supplies the majority of the pumped water supply in the Basin). The proposed project widening of Big Rock Wash Bridge would occur in Big Rock Wash and since the creek is seasonal there will not be any effects to the existing water quality. Also all work that will be required would be done during low flow season.

Hazardous Materials

The State Route 138 improvements would affect existing hazardous materials within the project area by disturbing the areas where these materials are found. With implementation of hazardous materials remediation, impacts related to hazardous materials would be reduced to a less-than-substantial level on an individual and cumulative basis.

Visual Resources

The State Route 138-improvement project would result in very few changes in the aesthetic composition of the area. Views of the surrounding desert and mountains will not be obscured as no sound walls are foreseen along the route.

4.20 Farmland (26)

The U.S. Soil Conservation Service within the U.S. Department of Agriculture determined the farmland in the proposed area of State Route 138 widening which happens to fall under the Federal Farmland Protection Act. Prime farmland is land, which has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management according to the current farming methods.

Construction of any of the alternatives would result in conversion of approximately .14 to 1.03 acres of prime farmland designated by the United States Department of Agriculture's Natural Resources Conservation Service (NRCS) depending on the alternative chosen. The farmland that would be converted is located between 72nd Street East and 75th Street East (PM 53.95, KP 86.82) and east of the California aqueduct in the proximity of 96th Street East (56.17, KP 90.39). According to the Farmland Conversion Impact Rating Form AD-1006 that was done by the NRCS the total prime farmland in the project area represents 1.9% of total farmable land in Los Angeles County which is 56,883 acres as defined in the Farmland Protection Policy Act (FPPA). The percentage of affected prime farmland that will be converted directly by the highway widening project is 0.0019% and 0.00026% according to the Farmland Conversion Impact Rating Form AD-1006. Given the extremely small proportion of regional farmland to be converted by the project, the proposed project's impact upon prime farmland is not substantial based upon the score of 152 given to the farmland based on the criteria set by the NRCS scoring system (See Appendix H).

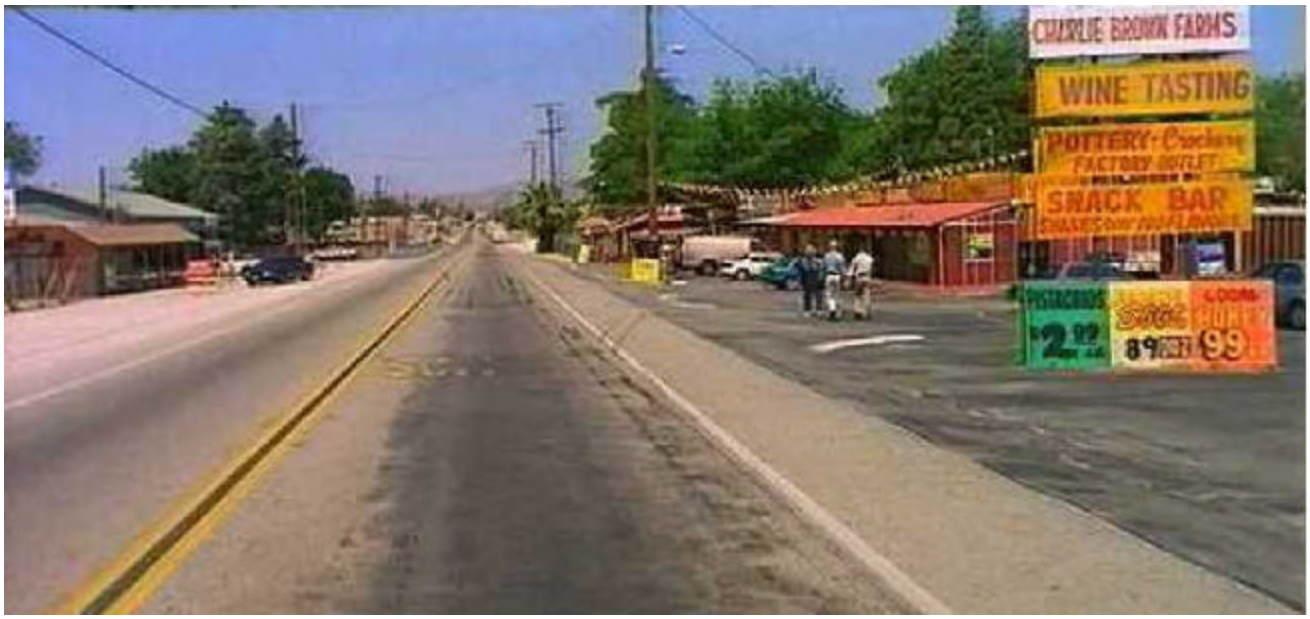
The NRCS classified the farmland "prime," but due to the relative value of the farmland and the Site Assessment, sites receiving a total score of less than 160 need not be given further consideration for protection and no additional alternatives need to be evaluated under 7 CFR 658.4 (c)(2). Therefore, no further coordination with the NRCS will be required.

4.21 Visual Impacts (53)

Visual Impacts

The Visual Impact Assessment was completed to evaluate the proposed construction of an additional mixed-flow lane in each direction on State Route 138 from Avenue T to the junction of State Route 18/138 (PM 51.4, KP 82.72 to 69.4, KP 111.68). The Visual Quality Analysis (VQA) of this proposed project site was performed to criteria set forth in The Visual Impact Assessment For Highway Projects (USDOT, FHA c. 1979). The visual quality was analyzed for each viewpoint in terms of vividness, intactness and unity. Viewpoints were selected for both east and west direction and commercial and rural viewpoints.

The first viewpoint was west bound on State Route 138 near 87th Street in Little Rock. According to the Visual Impact Study the visual quality of this viewpoint was evaluated below average. The terrain is flat and featureless. The man-made elements are chaotic and overpowering. The widening of the highway will affect the street diagonal parking, but improve the egress and access to this commercial zone parking. Telephone poles and roadside signs diminish the aesthetic experience. See Figure 13 and 14.



Source: Visual Impact Analysis April 2000

FIGURE 13 WESTBOUND STATE ROUTE 138 NEAR 87TH STREET-LITTLE ROCK EXISTING CONDITION

Source: Visual Impact Analysis April 2000

FIGURE 14 WESTBOUND STATE ROUTE 138 NEAR 87TH STREET-LITTLE ROCK PROPOSED CONDITIONS

The second viewpoint was eastbound on State Route 138 near 175th Street –Llano. The visual quality of this viewpoint was evaluated above average. The terrain is flat and featureless and the desert vegetation is limited. The dominance of the San Gabriel Mountains is the most significant feature. The addition of one travel lane per direction will have no impact on the visual quality. See Figure 15

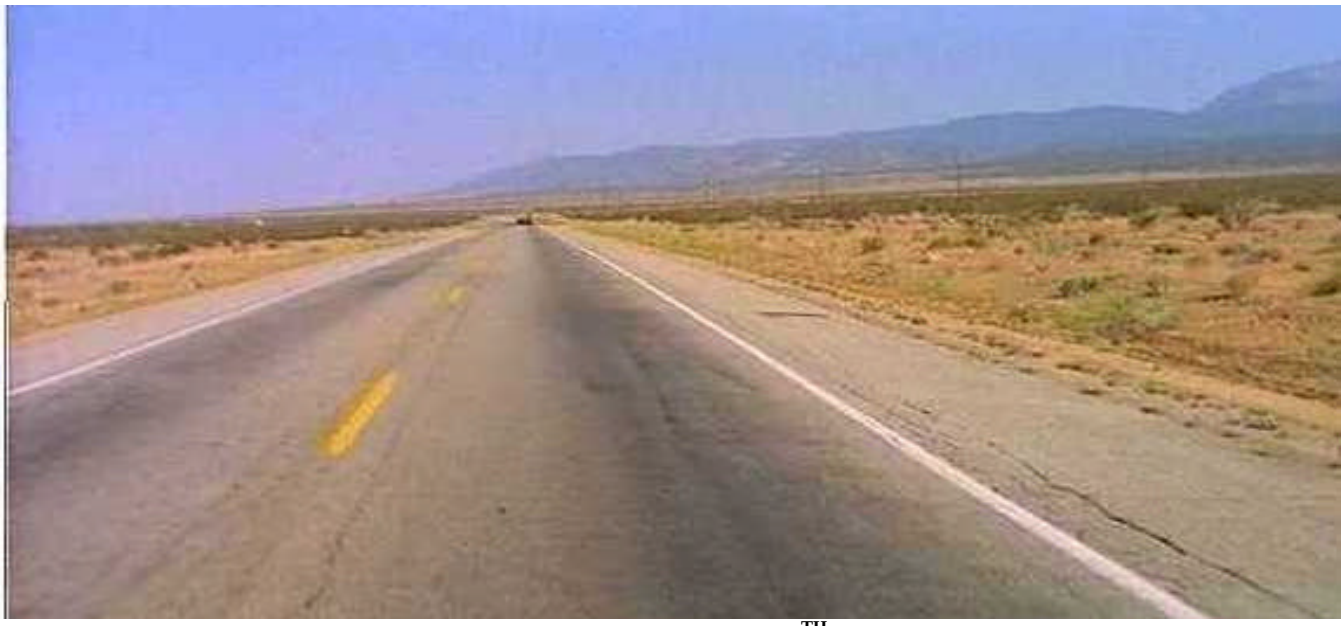


FIGURE 15 EASTBOUND STATE ROUTE 138 NEAR 175TH STREET –LLANO

The Visual Impact Study states that after the proposed construction the change to the visual quality would be slight change to an improvement for the viewpoints based on the visual quality analysis criteria. The greatest visual impact will relate to the commercial and residential parking access. The widening of the roadway will eliminate some roadside parking. The connection to the parking and roadway is important in terms of safety and the visual quality of the commercial zone.

The State Route 138 project would result in very few changes in the aesthetic composition of the area. Views of the surrounding desert and mountains will not be obscured as no sound walls are foreseen along the route.

4.22 Construction Impacts (54)

Construction Air Impacts

Impacts to ambient air quality would occur as a result of construction activities. Fugitive Dust and particulate matter, especially those less than ten microns in size (PM_{10}) emissions will be generated during project excavation and filling. Construction equipment and offsite vehicles used for hauling debris and supplies will also produce emissions during the construction. Project construction will be conducted in accordance with all Federal, State and local regulations that govern construction activities and emissions from those vehicles. The following mitigation measures would be used to comply with AQMD Rule 403:

Measures to Minimize Harm

1. *Stabilize construction roads and dirt piles with water and/or chemicals.*
2. *Limit speeds on unpaved construction roads.*
3. *Daily removal of dirt spilled on to paved roads.*
4. *Cease grading and excavation activities when wind speeds exceed 25 miles per hour and during extreme air pollution episodes.*
5. *Require covering of all haul trucks.*
6. *Phased grading to minimize the area of disturbed soils.*
7. *Phased construction to minimize daily emissions.*
8. *Proper maintenance of construction vehicles to maximize efficiency and minimize emissions.*
9. *Prompt re-vegetation of road medians and shoulders.*

Construction Noise

Construction of this project on State Route 138 may require use of equipment that has high noise characteristics. The equipment that would be used can range from concrete mixers producing noise levels of 80 decibels at a distance of 50 feet, to jack hammers over 90 decibels at the same distance. Normally construction noise levels should not exceed 86 dBA at a distance of 50 ft. To reduce the impact of these noises other measures should be used and are as follows:

Measures to Minimize Harm

1. *Construction activities should be confined to the daily period least disturbing to the neighboring communities.*

2. *Where there is close proximity to residential frontage, minimize operations from the City street side of the project to create the greatest distance between noise sources and residents.*
3. *Arrange the noisiest operations together in the construction program to avoid continuing periods of greater annoyance.*
4. *Require that equipment be installed and maintained with effective muffler exhaust systems.*